

ART. VIII.—*A Revision of the Genus Pultenaea, Part III.*

H. B. WILLIAMSON, F.L.S.

(With Plate VII.)

[Read 13th July, 1922.]

PULTENAEA CAPITELLATA, Sieber.

An authentic Victorian record for this plant is "Bendoc, C. French, Jan., 1899."

In the reference to the specimen "Port Jackson, Sieb., n. 313," in my Revision, Part I. "313" was in error written for "413."

PULTENAEA FERRUGINEA, Rudge.

Mr. A. A. Hamilton in Trans. Linn. Soc. of N.S.W., Vol. XLV., p. 262 (1920), restored this species.

I did not see Mr. Hamilton's paper, and had no intimation of what he had done till it was too late to make any reference to it in my Revision Part II., in which I also restored this species.

PULTENAEA CANALICULATA, F. v. M.

(Trans. Vic. Inst. 1855.).

A coast shrub with silky-villous terete leaves channelled above, and long, pubescent stipules. The large flowers with long calyx lobes are sessile, and crowded in the upper axils, with no bracts except the stipules of the floral leaves. The bracteoles are long, narrow, silky, and fixed below the calyx. It differs from *P. mollis* in not having capitate flower heads, in the more hairy, and sometimes golden-silky pubescence, and in its long narrow bracteoles.

On the coast from Port Lincoln to Corner Inlet.

Specimens from Cape Otway have leaves 7 lines long, with stipules over 2 lines long, while those from Warrnambool and Port Lincoln have leaves 4-5 lines long, less silky, somewhat clavate, with stipules 1 line.

Var. *latifolia*, var. nov.

Variat foliis oblongo-lanceolatis concavis subtus puberulis supra glabrescentibus.

A less hairy form with oblong-lanceolate leaves, concave, almost glabrous above.

Port Lincoln, S.A. S. Dixon, 1883.

PULTENAEA PEDUNCULATA, Hooker.

(Bot. Mag. t. 2859, 1828.)

P. Ausfeldii, Regel in Gartenflora 14 (1865).

Hooker described his species from plants grown at Kew in 1828, from seed sent from "New Holland" by Fraser, Govt. Botanist of

the Colony. Regel described his from plants grown at Berlin in 1865, from seed supplied by Dr. Ausfeldt, from Bendigo, in Victoria.

Unfortunately no type specimen of the former was preserved at Kew; but the plant found commonly in South Eastern Australia—Bendigo included—has been accepted by Mueller, Bentham and others as tallying sufficiently with Hooker's description and plate.

Let us consider the differences on which Regel founded his species. He says. "*P. pedunculata* differs from it (a) in having flowers in twos, which, to begin with, arise at the tips of the branches, and only later are pushed to one side." Hooker's description of *P. pedunculata* says: "Flowers in pairs from the extremity of the young branches, but they afterwards become lateral from the prolongation of the branches." *P. Ausfeldii* has "axillary flowers." On all specimens from Bendigo district I find a number of young branches showing flowers two, and sometimes three, together at the ends. As these become lateral from the prolongation of the branchlets, they show as axillary, and a close examination of the pairs shows them to be axillary from the first, but much crowded, so that Hooker's description is not incompatible with "axillary flowers." When becoming lateral, they do not remain so close as to be considered twin flowers. May we presume that Hooker appears to have laid stress on the earlier stage, while Regel appears to have ignored it? (b) Regel says, quoting from Hooker, "Flower-stalks one inch or more." We have specimens from Port Lincoln with peduncles about one inch long, and except for rather broader leaves, tallying in every other respect with the Bendigo specimens. I scarcely think that a species should be founded on that difference only. (c) "Zig-zag lower branches." Just a minor difference of habit. (d) "Only pointed leaves." Hooker's description omits any reference to the points on the leaves. His plate shows them only pointed, but the omission in his description does not mean that the "sharp thorny tip" mentioned in Regel's description was not present. (e) "Not united stipules." Hooker's description says: "two brown membranous stipules which stand upright, and are appressed to the stem." That does not mean that they are not partly united when at or near the ends of young branches, among crowded leaves. In the Bendigo specimens they certainly are so, but I find pairs of broad, membranous stipules showing exactly as in the Bot. Mag. plate. Lower down, I find stipules quite disunited. It should be remembered that right through the genus examples may occur where, on the same specimen, within a range of a few inches, stipules are: "broad, reddish, scarious, appressed and united," and "narrow, recurved, blackish and quite disunited." (f) "Erect calyx lobes." Hooker's description does not say so, although the plate shows some lobes scarcely spreading. I am of opinion that the plate drawn in 1828 represents, rather incorrectly, the plant grown at Kew from seeds from the form accepted by Bentham and Mueller as *pedunculata*, growing from Port Jackson to Spencer Gulf, and that Regel described his species from a plant grown from the same seeds, i.e., that both lots of seeds were from the same species. Dr. Stapf, of Kew, in a report to the

Director, Dr. Prain, says:—"There can be little doubt that certain specimens enumerated in the Flora Aust., under *pedunculata* represent *P. Ausfeldii*, especially those from 'Windu Valley, Robertson,' 'Bugle Range, Mueller,' (Mueller Exped. 1838). 'Belair,' (1931), 'Koch.' Unfortunately no specimen of *P. pedunculata* was laid down at the time when the species was described, and I have failed to identify any of our specimens written up as *P. pedunculata* with the Bot. Mag. plate." Dr. Prain, commenting on this last statement, says: "This may either mean that the Bot. Mag. figure is not correctly drawn, or that the plant which flowered at Kew in 1828 was a member of the same group of forms, but one that has never been met with again." It will be seen that I have decided in favour of the former of these possibilities. Copies of descriptions, figures and comments thereon kindly sent from Kew have helped me considerably in discussing this difficult matter. Two forms divergent from the type may be noted as varieties:—

Var. *pilosa*, var. nov.

Variat calyce et pedunculis sericeo-pilosis, foliis paulo recurvatis.

A form with silky hairs on calyx and peduncles, and leaves somewhat recurved at the tips.

Chewton, near Bendigo, Vic. (Coll?)

Var. *latifolia*, var. nov.

Variat foliis oblongo-lanceolatis, bracteolis calycis lobis longo-subulatis pedunculis pollicem longis.

A form with oblong lanceolate leaves, long-subulate calyx lobes and bracteoles and peduncles an inch long.

Port Lincoln, S.A. (Coll?)

PULTENAEA CUNNINGHAMII, (Bth) F. v. M.

(*Spadostyles Cunninghamii*, Bth. in Ann. Wien Mus. ii. 81, 1838; *Pultenaea ternata*, F. Muell. Fragm. 1, 8, and iv, 21, 1858.)

The combin. "*P. Cunninghamii*" was suggested by Mueller in Fragm. iv. 21, as a name for *P. ternata* and *P. styphelioides* if united, so we may accept the suggestion except as regards the inclusion of the latter plant.

A shrub usually glabrous, often glaucous, with sessile leaves all in whorls of three, broadly rhomboidal, truncate or shortly tapering, the midrib produced into a sharp thorny point, 2 to 9 lines long, usually broader than long, often 3 to 5 nerved at the base, with flowers in axils on pedicels 2 to 3 lines long, with bracteoles narrow-lanceolate or linear, subulate, inserted on the base of the calyx. Calyx 3 to 5 lines long, with lower lobes longer than the tube, upper much broader, united above the middle. Ovary glabrous, tapering into a flattened style.

Vic.: Buffalo Mts., Mitta Mitta, Whitfield. N.S.W.: Blue Mts., Narroga; source of Hunter R., Carter; Mudgee and Gilmore, J. L. Boorman; Port Jackson.

Specimens gathered at Whitfield, N.E. Vic. by myself, have flowers and leaves of the largest size.

Var. *pubescens*, Bth.

A small-leaved form, with branches more or less pubescent, and flowers on shorter pedicels.

Vic.: Upper Murray, and Mitta Mitta. N.S.W.: Hunter and Clarence Rivers. Queensland: Helidon, F. M. Bailey; Darling Downs, with large leaves, H. Law.

PULTENAEA SPINOSA (D.C.) comb. nov.

Oxylobium spinosum, D.C., Prod. ii. 104, *Euchilus cuspidatus*, F. v. M. Trans. Phil. Inst. Vic. ii, 68, *Pultenaea, ternata*, F. v. M. var. *cuspidata*, Bth. Fl. Aust. ii, 122.

"Branches slender, pubescent, leaves small, tapering into a pungent point."

Qld.: Burnett and Brisbane Rivers, F. Mueller. Wide Bay, Bidwill. Ipswich, Nernst. Enoggera, C. T. White, Mar. 1922. N.S.W.: Clarence River.

This plant is sufficiently distinct to rank as a species owing to its very small much tapering leaves with long, straight points, its long peduncles, and very small flowers with sharp points on calyx lobes.

This and *P. Cunninghamii* appear to be extremes of a series of intermediates, the position of which will not be easy to determine, but an attempt must be made to do so. We must agree with Messrs. Maiden and Betche, who point out, (Proc. Linn. Soc. N.S.W. XXXIII. 310), that we must draw arbitrary lines where series of intermediates occur, and that if we were to unite all species between which connecting links exist, we would reduce many large genera to only a few species, which would be neither practicable nor expedient.

PULTENAEA KENNYI, sp. nov.

Frutex circiter 30 cm altus, ramulis pubescentibus, foliis truncatis 5-9 cm longis, 3 mm latis breviter petiolatis planis vel margine paululum recurvatis mucronulo recurvo terminantibus supra glabris infra exigue minutissime puberulis, stipulis 1 mm longis, floribus solitariis prope apicem ramulorum axillaribus, pedicellis sericeo-villosis 2 mm longis, bracteis nullis, bracteolis circiter 1 mm longis, medio calycis affixis, calyce 5 mm longo lobis tubo aequilongis superioribus falcatis albo-sericeo-villoso, vexillo et alis flavis, carina sordide flavescente, ovario sericeo-villoso, stylo subulato, legumine non viso.

Shrub about 3 ft. high, similar in appearance to *P. retusa* Sm. Leaves 3-4 lines long, truncate, slightly recurved at the margin, the midrib ending in a minute recurved point, glabrous above, but with

a few silky hairs below. Flowers solitary in the upper axils with no bracts. The bracteoles are about half a line long, and are fixed high on the calyx tube.

This plant belongs to the Section *Eupultenaea*, and in foliage reminds one of *P. retusa* Sm. Only three other plants in the Section have flowers not in terminal heads, viz., *P. conferta* Bth., *P. Millari* Bail. and *P. pedunculata* H.K. The first-named is easily distinguished by its peculiar calyx with its free upper lobes. *P. Millari* differs from the new plant in having larger, almost ovate leaves with a dense, silky tomentum beneath, and in its larger stipules, a flattened style, hairy from below upwards, and long bracteoles, fixed at the base of the calyx.

Crow's Nest, on the Northern Darling Downs, Southern Queensland. Dr. Frederick Hamilton Kenny, Feb. 1922.

Dr. Kenny, after whom the plant is named, is an enthusiastic botanist, and was accompanying Mr. C. T. White, F.L.S., Government Botanist of Queensland, on a botanising trip when the plant was found.

PULTENAEA TERETIFOLIA, sp. nov.

Frutex parvus, ramulis pubescentibus, foliis tenuissimis linearicylindricis supra canaliculatis puberulis vel hispidulis 8-12 mm longis, floribus breves ramulos terminantibus in capitula confertis, stipulis subulatis, bracteis nullis vel paucis brevibusque, bracteolis linearibus villosis tubo calycis aequilongis eoque ad basin affixis, calyce pubescente canescente lobis acutis tubo subaequilongis superioribus latiusculis quam inferiora, ovario villosa, stylo subulato.

A shrub with very slender terete leaves minutely hispid, and with a light coloured calyx and linear ciliate bracteoles.

South Australia: "Murray Scrub," Spencer Gulf (Coll?), Warunda, near Port Lincoln, Griffith. Kangaroo I., O. Tepper. Marble Range, Wilhelmi.

This plant has been included by Bentham under *P. mollis* Lindl. as "var. *canescens*?" p. 128, Fl. Aust. The query mark shows that he was doubtful. It should rank as a species, being well away from *P. mollis* in indumentum, inflorescence and bracteoles, which latter are linear ciliate not keeled. It is nearest to *P. canaliculata* F. v. M. under which written name indeed one specimen was placed as a variety by Mueller in his herbarium. Its fine leaves, hispid, not silky, its flowers capitular crowded, and short bracteoles fixed on the calyx, not under it, keep it distinct from that species.

Var. *brachyphylla*, var. nov.

Variat floribus paucis, petalis atro-rubris, foliis 4mm longis.

A plant with thicker and shorter leaves and fewer flowers and darker petals which has been found labelled "*P. adunca* Turcz."

S.A.: Kangaroo I. and Harriet, O. Tepper.

PUITENAEA D'ALTONII, sp. nov.

Frutex 60-80 cm altus, ramulis pubescentibus, foliis lineari-cylindricis supra canaliculatis subclavatis obtusis divaricatis 4-6 mm longis apice paululum recurvis minute patenti-hispidis, stipulis latiusculis subulatis recurvatis, floribus axillaribus apice ramulorum inter latas stipulas foliorum florum confertis, bracteolis foliis similibus ad basin calyce affixis latas stipulas scariosas gerentibus, calyce 8 mm longo pilis patentibus pubescente lobis tubo longioribus, superioribus falcatis latioribus et conjuntioribus, ovario sericeo-villoso, stylo usque ad medium villosa, legumine non viso.

Shrub to 3 ft. high, with terete, much spreading, somewhat clavate, minutely-hispid leaves, and with a calyx with much falcate upper lobes and leafy bracteoles fixed to the base of the calyx, and provided with broad scarious stipules.

This plant has been placed under *P. tenuifolia* R. Br. from which it differs in its divaricate, blunt, and somewhat clavate leaves not at all fascicular as in *tenuifolia*. Flowers are not terminal or two together, or enclosed by bracts. Bracteoles are leafy and stipulate, which is not the case in the typical *tenuifolia* of Brown. The calyx is very different, being twice as large, with falcate upper lobes. *P. tenuifolia* has a calyx with almost equal lobes which, when not glabrous, are beset with long, straight white hairs (Port Lincoln specimen, Griffith).

In foliage the plant has a marked resemblance to *P. teretifolia* (above).

It is nearest to *P. laxiflora*, Bth. var. *pilosa*, Williamson, having the same calyx and bracteoles, but there are no bracts except the broad stipules of the floral leaves, and the flowers are sessile in dense clusters, and the leaves divaricate, and hispid with short hairs.

Between Nhill and Goroce, N.W. Victoria, St. Eloy D'Alton, Oct. 1897.

This species is named after Mr. St. Eloy D'Alton, whose records of many years' collecting in the North West of Victoria are a valuable addition to the Botany of that State.

PUITENAEA PROLIFERA, sp. nov.

Frutex erectus circiter 60 cm altus ramulis pubescentibus, foliis linearibus margine incurvatis vel lineari-cylindricis supra canaliculatis 8 mm longis patentibus incurvatis minute hispidis, stipulis subulatis, floribus singulis vel binis sessilibus apice ramulorum brevissimorum, fructibus lateralibus ob proliferum incrementum ramulorum juvenum, bracteis 4-5 imbricatis latis appressis minute pilosis bifidis lobis obtusis interioribus calyce aequilongis, bracteolis oblongis calyce aequilongis infra tubum affixis eumque fere cingentibus, calyce 4 mm longo subglabrescente membranaceo lobis ciliolatis acutis inferioribus tubo aequilongis superioribus brevioribus, vexillo et alis flavis, carina atro-rubra, ovario sericeo-villoso, stylo tenui, legumine lato-ovato villosa.

A shrub to 2 ft. high, somewhat like *P. mollis* Lindl. in foliage, but with leaves hispid with minute hairs. Like *P. tenuifolia* R. Br.,

its nearest affinity, it has flowers in pairs, or singly terminal at the end of very short branchlets, which are proliferous, causing the fruit to appear lateral, but the bracts are not acute, nor twice as long as the calyx, nor glabrous, but have broad, rounded lobes, hairy, and closely imbricate. The calyx, also, is very different, the upper lobes being united almost to the summit. It is an erect shrub with incurved hispid leaves, while *P. tenuifolia* is prostrate, and has straight and almost glabrous leaves.

Carlisle River, Otway Forest, Vic. Miss Sceaney, Nov. 1906, and Willie Lucas, Nov. 1921.

There is a fruiting specimen from the same district labelled in Mueller's handwriting; "*P. mollis*, var. Heaths between the Gellibrand R. and Curdie's River, Mar. 1874."

PULTENAEA BOORMANII, sp. nov.

Frutex erectus, ramulis puberulis, foliis lineari-cylindricis supra canaliculatis 7-12 mm longis appresso-pilosulis in mucronem recurvulum desinentibus, stipulis lineari-setaceis recurvatis, floribus paucis prope apicem ramulorum axillaribus, bracteis nullis, bracteolis lineari-subulatis calyce aequilongis stipulas setaceas ad basin gerentibus tubo affixis, calyce 9 mm longo villosa lobis subulatis 7 mm longis superioribus paululum latoribus, ovario glabro, ad summum cirrum album gerente, stylo subulato, legumine non viso.

An erect shrub to 2 ft. with very slender terete leaves and axillary flowers with a remarkably short calyx tube, and with stipulate bracteoles fixed at the base of the calyx.

In foliage this species resembles *P. mollis* Lindl. but it has flowers axillary, and not in terminal heads. It must be placed in subsection F. of Sect. *Coelophyllum*, between *P. humilis* and *P. setulosa*.

It resembles the former in its long narrow calyx lobes and its glabrous ovary surmounted by a tuft of white hairs, but differs from it in having very slender terete leaves, and stipulate bracteoles set higher on the calyx tube. *P. setulosa* with its fine points to leaves, stipules and calyx lobes, and its longer calyx tube, can be easily distinguished from this species.

It is named after Mr. J. L. Boorman, who first collected it.

Mr. Cheel, Chief Asst. to the Government Botanist, Sydney, has supplied the following notes on the plant:—

"It was originally collected at Minore, N.S.W., by Mr. J. L. Boorman, in Feb., 1899, and was determined by the late J. H. Camfield as a doubtful form of *P. echinula* Sieb. In 1904, some additional specimens were collected at Bidden Road, 7 miles from Gilgandra, North of Dubbo, by Mr. R. H. Cambage, who sent them in under No. 1110, Oct. 15, '04, as a doubtful form of *Dillwynia ericifolia*. Duplicates of the same plant from the same locality were sent in later by Mr. Cambage. These were determined by the late Mr. Betche as *P. mollis*, Lindl., and recorded in the Proc. Linn. Soc. of N.S.W., Vol. XXX. p. 360, as new for N.S.W. In August, 1908, Mr. Boorman collected a small specimen at Gocnoo, near Mudgee, and again in June, 1909, from the same

locality, with the following note: "A small, bushy plant, 1-2 ft. high, growing in dry places in forest land. No flowers hitherto met with. Identical plants found at Nundle, and at Warialda." Later, Mr. Cheel, in sending in his report on a specimen sent to me, gave his opinion that it was not *P. mollis*, but an undescribed species, and it was arranged on the advice of Mr. J. H. Maiden, that I should describe the plant.

PULTENAEA READERIANA, sp. nov.

Frutex circiter 1 m altus, ramulis pubescentibus, foliis ovato-lanceolatis vel subcuneatis patentibus. 5-10 mm longis margine paululum incurvatis molle patenti-villosis, petiolis 1.5 mm longis, stipulis subulatis recurvatis vel appressis latioribusque in ramulis junioribus, floribus 3-5 breves ramulos terminantibus in capitula foliosa confertis, bracteis nullis praeter latas stipulas foliorum floralium, bracteolis linearibus ciliatis tubo calycis subaequilongis interdum stipulas gerentibus, calyce 4-5 mm longo pubescente, lobis acutis tubo longioribus, inferioribus angustioribus, ovario sericeo-villoso, legumine non viso.

A shrub about 3 ft. high, with leaves ovate-lanceolate to almost cuneate, much spreading, about two lines long, on very distinct petioles, slightly incurved at the margin, and beset with soft spreading hairlets. Flowers are in terminal leafy heads, 3 or 4 together on the very short branchlets. The broad stipules of the floral leaves take the place of bracts, and the bracteoles are linear, beset with hairs, nearly as long as the calyx lobes, fixed at the very base of the calyx tube, and occasionally provided with scarious stipules. The calyx is about two lines long, with narrow acute lobes, membranous, and beset with hairs. The ovary is quite covered with silky hairs.

This plant has been wrongly determined as a form of *P. villosa* Sm. In foliage it resembles that species, but its flowers are all terminal, its calyx a very different shape, not being falcate, and its bracteoles are not leafy, as in *P. villosa*. Its nearest ally is *P. hispidula* R. Br. from which it differs in not having a very small calyx with short lobes and long bracteoles.

Southern Grampians. Vic., Nov. 1907, H. B. Williamson. No. 1369. Merton, Vic. A. W. Howitt, No. 974.

Some specimens collected in the Dandenong Ranges and determined as *P. villosa* are referable to this species.

Named in memory of the late F. M. Reader, who first examined the plant at my request in 1907, and who was well-known as an enthusiastic and careful botanist, who did much valuable research work on the flora of Victoria, especially in the Mallee District.

PULTENAEA BARBATA, C. Andrews.

(Journal, W.A. Nat. Hist. Soc., No. 1, p. 38, 1904.)

An erect shrub of two feet with virgate branches, glabrous or slightly silky when young. Leaves alternate or scattered, narrow-linear, 3-5 lines long on very short petioles, minutely hispid and tuber-

culate, with closely revolute margins. Stipules suppressed. Flowers in heads or umbels apparently terminal, but with a short leafy shoot slightly exceeding the flowers in the middle of the umbel. Pedicels very short. Bracts not apparent even in the bud. Bracteoles linear-lanceolate, villous, persistent, inserted under and free from the calyx, 2-2½ lines long. Calyx silky, villous, 2-2½ lines long, the three lower lobes slightly longer than the tube, subulate, the upper lobes broader, and united higher up. Standard 3 lines long, broad, dark-brown. Wings slightly shorter and similar in colour. Keel obtuse, slightly incurved, yellow. . Ovary villous, tapering into a long incurved style, of which the lower part is villous all over, and the upper part glabrous except for the fringe of white silky hairs on the inner side. Pod not seen.

This species belongs to the section *Eupultenaea*. The habit, foliage, and style are like those of *Phyllota barbata*, Benth., but it has the free stamens and strophiolate ovules of *Pultenaea*. Its nearest ally is perhaps *P. pinifolia*, Meiss., from which it differs in shorter leaves, absence of stipules, persistent bracteoles, narrow calyx lobes, smaller flowers and peculiar style.

In flower, October, 1903, near Phillips River, W.A. Andrews.

The above is taken from the Journal Nat. Hist. Soc. W.A. I have not been able to ascertain where the type specimen of the plant was placed, if indeed it was preserved at all.

It would be well if the rule:—"That for a species to be recognised, the type must be deposited in some leading Botanical Institution of the country in which it is gathered." were always followed.

PULTENAEA ARIDA, E. Pritzel.

(Engler's Bot. Jahrb. Bd. XXXV. 258, 1905.)

"Shrub 20-30 cm. high, with opposite spreading branches, sometimes spinescent, the young branches hoary-pubescent. Leaves opposite or ternate, very shortly petiolate, 3-5 mm. long, 2 mm. broad obovate, or almost truncate, obtuse, nearly flat, densely and finely silky pubescent. Stipules small and brown. Flowers 1-3 in axils on pedicels of 3 mm. long. Bracteoles dark-brown scarious, very small and adnate to the calyx. Calyx silky, with a very short tube, upper lobes much broader and longer than the lower."

I have examined a piece of the type which the authorities of the Berlin Museum of Botany kindly sent along, and I find the bracteoles fixed well below the calyx. The plant comes between *P. obcordata* Bth., and *P. rotundifolia*, Bth., from which two species it differs in its rigid spinescent branches, length of pedicels, size and indumentum of leaves and shape of calyx.

PULTENAEA SUBALPINA, (F. v. M.), Druce.

(2nd. Suppl. Bot. Exch. Club Report, 1916, p. 643.)

This is *P. rosea* of Mueller, who described the plant under the name *Burtonia subalpina* (Trans. Phil. Inst. Vic., i., p. 39, 1855), and

afterwards removed it to the genus *Pultenaea*, giving it the appropriate and euphonious species name *rosca*, which, however, was corrected by Druce as above, in accordance with the Vienna Rules.

PULTENAEA HIBBERTIODES, Hooker, f.

(Fl. Tasm. i., 89, 1860.)

A shrub with branches and leaves of *P. mollis*, Lindl., and inflorescence very similar, but differing from that species in having imbricate bifid bracts, the inner ones over two lines long, and usually striate. The bracteoles also, are different, being at least as long as the calyx, and fixed distinctly under the tube, not upon it. The calyx lobes are not so short, being as long as the tube, and acute or acuminate. From *P. viscosa* it differs in having narrower terete leaves, larger bracts, etc.

Vic.: Buffalo Mts., Mueller, Mt. Hotham, and other parts of the Alps. N.S.W.: Aust. Alps. Tas.: Between Launceston and George Town.

Var. *conferta*. Bth.

Pedicels short, bracts and bracteoles smaller. "Australia felix," Mueller.

I have not seen Mueller's specimens, but specimens from Cobden, S.W. Vic. (Coll?), I have determined as this variety.

PULTENAEA MOLLIS, Lindl.

(Mitchell's Three Expeditions ii., 260, 1838.)

A shrub with branches clothed with soft hairs, and having terete or narrow-linear leaves $\frac{1}{2}$ to 1 in. long, which are also covered with soft, appressed hairs. Flowers are in terminal heads, each on a pedicel of a line long. The calyx lobes are broad, shorter than the tube, and all nearly equal. Bracts are short, and few besides the broad bract-like stipules of the floral leaves. Bracteoles are lanceolate, keeled, and set on the base of the calyx tube, from one-half to nearly the length of the calyx, thin, shining or viscid, and ciliate at the edges.

Vic.: Mt. William and Wannon River, Grampians.

Specimens from Mt. Macedon and the Dandenong Ranges differ from the type in having almost glabrous leaves, smaller and less hairy calyx with very short lobes, and with broad and very short bracteoles.

PULTENAEA VISCOSA, R. Brown.

(Bth. Fl. Aust., ii., 127. 1864.)

A shrub to 4 ft. resembling *P. mollis*, but with leaves constantly open on the upper side, and sometimes nearly flat, with midrib showing distinctly both above and below. The flowers are more crowded in the heads than those of *P. mollis*, and the pedicels are shorter. It differs also from *P. mollis* in having larger bracts and bracteoles, which latter are fixed under the calyx, and are not ciliate. No speci-



P. Cunninghamii (Bth) FvM.



P. spinosa (DC) comb. nov.



P. mollis Lindl.



P. viscosa RB.



P. canaliculata FvM.



P. foliolosa Cunn.



P. hibernioides JHk.



var latifolia n. nov.



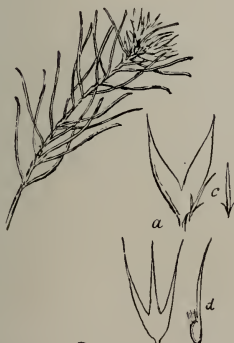
P. Kennyt sp. nov.



P. prolifera sp. nov.



P. teretifolia sp. nov.



P. Boormanii sp. nov.



P. Readeriana sp. nov.



P. D'Altonii sp. nov.